

## CLAIMS

1. A carbonizing apparatus, comprising:
  - a carbonizing furnace is constructed as a vertical type for carbonizing a target material and comprising:
    - a feeding portion at an upper section of said carbonized furnace for feeding the target material;
    - an exhausting portion at said upper section of said carbonized furnace for exhausting combustion gas;
    - a takeout portion at a lower section of said carbonized furnace for taking out a carbonized material, wherein a takeout speed of the carbonized material from the takeout portion being adjustable;
    - a blowout portion at said lower section of said furnace for providing combustion air, wherein a blowout amount of the combustion air from the blowout portion is adjustable; and
    - a stirring device comprising a stirring member which swivels about a vertical axis for stirring the target material inside said carbonizing furnace; and
    - wherein said carbonized furnace is operable to carbonize the target material fed by the feeding portion and stirred by the stirring device to provide the carbonized material via a spontaneous combustion, the target material is moved by deadweight towards the takeout portion as the target material is carbonized within said carbonized furnace, wherein a takeout speed of the carbonized material from the takeout portion is adjustable.
2. The carbonizing apparatus of claim 1, wherein said carbonizing furnace comprises a temperature detecting portion for detecting temperature of the processing target material; and wherein the blowout amount of the combustion air from the blowout portion is adjustable according to the temperature of the target material detected by said temperature detecting portion.

3. The carbonizing apparatus of claim 1, wherein said blowout portion is provided in a peripheral wall of the carbonizing furnace and in the stirring member.
4. The carbonizing apparatus of claim 1, wherein a combustion space for unburned combustion gas is formed inside the carbonizing furnace between said feeding portion and said exhausting portion.
5. A carbonizing system comprising:
  - a drying device for a target material;
  - a storage tank for the target material;
  - conveying means for conveying the target material dried by the drying device to the storage tank; and
  - feeding means for feeding the target material in the storage tank to a carbonizing apparatus.
6. The carbonizing system of claim 5, wherein said carbonizing apparatus comprises:
  - a carbonizing furnace for carbonizing a target material and comprising;
  - a feeding portion for feeding the target material;
  - an exhausting portion for exhausting combustion gas;
  - a takeout portion for taking out a carbonized material;
  - a blowout portion for providing combustion air, wherein a blowout amount of the combustion air from the blowout portion is adjustable; and
  - a stirring device for stirring the target material inside said carbonizing furnace;and
  - wherein said carbonizing system is operable to carbonize the target material fed by the feeding portion and stirred by the stirring device to provide the carbonized material via a spontaneous combustion, the target material is moved towards the takeout portion as the target material is carbonized within said carbonized furnace, and is subsequently taken out of the takeout portion as carbonized material.
7. The carbonizing system of claim 6, wherein said carbonizing furnace is constructed as a vertical type;

wherein said feeding portion is at an upper section of said carbonized furnace;  
wherein said exhausting portion is at said upper section of said carbonized furnace;

wherein said takeout portion is at a lower section of said carbonized furnace;

wherein said blowout portion is at said lower section of said furnace;

wherein said stirring device comprising a stirring member which swivels about a vertical axis; and

wherein the target material is moved by deadweight towards the takeout portion as the target material is carbonized within said carbonized furnace, wherein a takeout speed of the carbonized material from the takeout portion is adjustable.

8. The carbonizing system of claim 6, wherein said carbonizing furnace comprises a temperature detecting portion for detecting temperature of the processing target material; and wherein the blowout amount of the combustion air from the blowout portion is adjustable according to the temperature of the target material detected by said temperature detecting portion.
9. The carbonizing system of claim 7, wherein said blowout portion is provided in a peripheral wall of the carbonizing furnace and in the stirring member.
10. The carbonizing system of claim 6, wherein a combustion space for unburned combustion gas is formed inside the carbonizing furnace between said feeding portion and said exhausting portion.
11. The carbonizing system of claim 6, wherein an exhaust heat recovering boiler is connected to said exhausting portion.
12. The carbonizing system of claim 5, wherein said drying device comprises a drying chamber for accommodating the target material and a drying gas blowout portion for blowing out drying gas from under the target material inside the drying chamber, thereby forming a fluid bed for drying the target material under a floating condition, and wherein said conveying means is operable to take out dried target material floating inside the drying chamber and conveying the dried target material to the storage tank.

13. A carbonizing system comprising the carbonizing apparatus of claim 1, a drying device for the target material; and a drying gas feeding passage for feeding combustion exhaust gas of the target material inside said carbonizing furnace as drying gas to said drying device; and  
wherein said drying device is provided integral with an upper portion of said carbonizing furnace.
14. The carbonizing system of claim 13, wherein said drying device comprises a drying chamber for accommodating the target material and a drying gas blowout portion for blowing out drying gas from under the target material inside the drying chamber, thereby forming a fluid bed for drying the target material under a floating condition, and wherein the system further comprises a feeding means for taking out dried target material floating inside the drying chamber and conveying the dried out target material to the feeding portion.
15. A method for carbonizing a target material, comprising the steps of:  
drying the target material by a drying device to provide a dried material;  
conveying the dried material to a storage tank for storing temporary storing the dried material in the storage tank; and  
feeding the dried material to a carbonized furnace to carbonize the dried material.